

*SEL Table of Contents*

Section Number	Category	Title	Page Number
		<b>Foreword</b>	<b>80</b>
<b>01</b>		<b>Personal Protective Equipment</b>	<b>82</b>
01	AR	Respiratory Protection Equipment	95
01	CB	NFPA 1994 Chemical/Biological Terrorism Protective Equipment	105
01	EM	NFPA 1999 Protective Clothing (Emergency Medical Services)	109
01	LE	Tactical Law Enforcement Protective Equipment	113
01	SF	NFPA 1971 Ensembles (Structural Fire Fighting)	115
01	SH	NFPA 1976 Ensembles (Proximity Fire Fighting, High Radiant Heat)	120
01	SP	NFPA 1992 Splash-Protective Ensembles and Items	125
01	US	NFPA 1951 Ensembles (Search and Rescue)	130
01	VF	NFPA 1991 Ensembles with Optional Flash Fire Protection	133
01	VT	NFPA 1991 Ensembles	137
01	XD	Explosive Ordnance Disposal	140
01	ZA	PPE Accessories	143
01	ZP	Ancillary Equipment	149
<b>02</b>		<b>Explosive Device Mitigation and Remediation Equipment</b>	<b>150</b>
02	EX	Equipment	152
<b>03</b>		<b>CBRNE Operational and Search &amp; Rescue Equipment</b>	<b>156</b>
03	OE	Operational Equipment	158
03	SR	Search & Rescue Equipment	173
<b>04</b>		<b>Information Technology</b>	<b>178</b>
04	AP	Application Systems and Software	180
04	HW	Hardware	186
04	MD	Media Devices	192
04	SN	Sensor Devices	193
04	SW	System and Networking Software	194
<b>05</b>		<b>Cyber Security Enhancement Equipment</b>	<b>197</b>
05	AU	Authentication Devices	203
05	EN	Encryption	203
05	HS	Host Level Security	204
05	NP	Network Level Security	206
05	PM	Patch and Configuration Management	207

Section Number	Category	Title	Page Number
<b>06</b>		<b>Interoperable Communications Equipment</b>	<b>208</b>
06	CC	Commercial	210
06	CP	Private	214
<b>07</b>		<b>Detection</b>	<b>219</b>
07	BD	Biological Detection	222
07	BS	Biological Support	223
07	CD	Chemical Detection	224
07	CS	Chemical Support	232
07	ED	Explosive Detection	233
07	RD	Radiological Detection	235
07	RS	Radiological Support	238
07	SE	Support Equipment	239
<b>08</b>		<b>Decontamination</b>	<b>241</b>
08	D1	Pre-Decontamination	242
08	D2	Active Decontamination	243
08	D3	Post-Decontamination	248
<b>09</b>		<b>Medical</b>	<b>249</b>
09	ME	Medical Equipment	252
09	MS	Medical Supplies	263
09	PH	Pharmaceuticals	274
09	TR	Training	288
<b>10</b>		<b>Power</b>	<b>289</b>
10	BC	Batteries and Power Cells	290
10	GE	Generators	290
10	PE	Other Power-Related Equipment	291
<b>11</b>		<b>CBRNE Reference Materials</b>	<b>293</b>
11	FR	Field Expedient References	294
11	RD	Reference Databases	301
11	RE	References	302
		<b>Standards List</b>	<b>309</b>

## Section 8 – Decontamination

This section contains recommendations for decontamination equipment, and changes from the previous edition are minimal. It is organized into three main categories, as follows:

- **Pre-Decontamination**, defined as activities or equipment that may be used prior to active decontamination.
- **Active Decontamination**, defined as activities or equipment that may be used in removing contamination from individuals and equipment.
- **Post-Decontamination**, defined as activities or equipment that may be used after active decontamination.

Successful CBRNE HAZMAT response requires a sound decontamination plan that has been practiced with proper techniques and equipment. In addition to personnel, techniques, and equipment, the plan should address factors such as run-off and hazardous materials disposal, since some CBRNE agents may be neutralized while others may become hydrolyzed or diluted while being physically washed off patients and equipment. Plans should include as many specific procedures as possible - if a hazardous material has been identified through testing, then the decontamination plan should include proper PPE and decontamination equipment appropriate to the hazard. The plan should include multiple stages of decontamination (e.g., field expedient gross decon for personnel and equipment), with appropriate equipment and training required for each stage. The decontamination plan must also interface smoothly with other operating plans such as medical response (e.g., policies for triage at decontamination stages, transportation of contaminated patients, etc.).

The D&D SubGroup is continually working to identify standards and best practices for decontamination, including the establishment of standards for newly available decontamination equipment and technologies. No matter what types of equipment or methods are used by the responder community, the results must ultimately be judged by some standard or best practice from the medical community as to the efficacy of the decontamination. All first responders should also seek advice from their state and local experts on the applicability and practicality of their plans in the context of local laws and practices.

### *Online Selection Factors and Efficacy Matrix*

Like most sections in the 2006 SEL, the online<sup>1</sup> version of the Decontamination section uses a pair of selection factors to assist users in quickly identifying appropriate equipment items. For the Decontamination section, the SubGroup chose the same factors used in the Detection section (Section 7): Proficiency Level, and Hazard Environment. See the introduction to Section 7 for a detailed description of these two factors. Every online item is “tagged” for each appropriate combination of factors. Thus users on the online version can choose any combination of Proficiency Level and Hazard Environment, and the system will provide a list of all items tagged for that combination.

There is also a new feature on the Responder Knowledge Base this year that should prove helpful in decontamination planning. It is called the Decontamination Efficacy Matrix, and provides information about various decontamination methods and their effectiveness against specific threats. The information was provided to the RKB by the U.S. Army Edgewood Chemical and Biological Center (ECBC) in Aberdeen, Maryland, and is linked to various items in this section of the SEL.

<sup>1</sup> The online version of the SEL is available on the Responder Knowledge Base at [www.rkb.mipt.org](http://www.rkb.mipt.org).

## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D1 - Pre-Decontamination</b>			
<b>01 - Personal Decontamination Kits</b>			
08D1-01-KITD  Kits or Packets, Personal Decontamination	Kits or packets used for emergency personal decontamination.	Hand held Ability to self-decontaminate from chemical warfare agents. Ability to self-decontaminate from TIMs. Ability to self-decontaminate from biological agents. ----- One time use Shelf life limitations Additional decontamination measures are required.	
<b>D1 - Pre-Decontamination</b>			
<b>02 - Personal Decontamination Solutions</b>			
08D1-02-RSDL  Lotion, Decontamination	Alternate solution to neutralize chemical warfare agents.	Easy to use ----- For use on equipment For use on humans under FDA approved conditions only in limited quantities Good against chemical warfare agents and some TICs only	87
<b>D1 - Pre-Decontamination</b>			
<b>03 - Extraction Litters</b>			
08D1-03-LITR  Litters, Extraction	Extraction litters for non-ambulatory victims.	Man-portable Decontaminable Reusable Wheeled ----- Uneven terrain Labor intensive Patient maximum weight considerations Storage/transport considerations Minimal training	

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.

## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D1 - Pre-Decontamination</b>			
04 - Technical Decontamination Corridor Support			
08D1-04-TDCS  Support, Decontamination Corridor	Signs, signals, traffic cones, lights, hazmat tape, directional signage, strobes, glow sticks, loud-speakers, etc.	Multiple pictures and languages Industrial grade GFI equipment ----- Size Weight Deployment time Collapsible Water resistant	122
<b>D2 - Active Decontamination</b>			
01 - Emergency Decontamination Systems			
08D2-01-MCDS  Systems, Mass Casualty Decontamination	Mobile or fixed systems capable of delivering water or solutions in varying temperatures and at sufficient flow rates for the purpose of washing numerous contaminated victims. Suitable systems may be tents, trailers, vehicle mounted, or integrated into building systems.	Lighting HEPA filters Roller systems for dealing with non-ambulatory victims Flash heater Pre-plumbed ----- Set up time Water supply (requires source), temperature, pressure, volume Power supply Drainage or collection of runoff Modesty protection	
<b>D2 - Active Decontamination</b>			
02 - Emergency Decontamination Applicator Equipment			
08D2-02-EDCS	Equipment or system with the capability to immedi-	Man-portable Freedom to select desirable solutions →	

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.

## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D2 - Active Decontamination</b>			
02 - Emergency Decontamination Applicator Equipment - <i>Continued</i>			
Equipment, Emergency Decontamination Application	ately reduce contamination of individuals with potentially life threatening exposure, with or without the formal establishment of a decontamination corridor.	Low pressure Rapidly deployable Durable ----- All weather Hazards of material Low cost Minimal training	
<b>D2 - Active Decontamination</b>			
03 - Waterproof Lighting			
08D2-03-LITE  Lighting, Decontamination Area	Decontamination area lighting	Moisture resistance Brightness Decontaminable Portable Intrinsically safe ----- Power supply Decontamination system compatible GFI Replacement bulbs Power cords	122, 140
<b>D2 - Active Decontamination</b>			
04 - Personal Property Tracking			
08D2-04-PPTS  System, Personal Property Tracking	Personal property tracking system to identify personal effects of decontaminated victims.	Waterproof Attachable Writable ----- →	

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.

## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D2 - Active Decontamination</b>			
04 - Personal Property Tracking - <i>Continued</i>			
		Size	
<b>D2 - Active Decontamination</b>			
05 - Technical Decontamination Equipment - Dry			
08D2-05-TDED  Equipment, Technical Decontamination - Dry	Equipment used to decontaminate or remove dry materials.	Portable ----- Requires power supply Collected material must be disposed of properly.	
<b>D2 - Active Decontamination</b>			
06 - Technical Decontamination Equipment - Wet			
08D2-06-SOLN  Solution, Decontamination, Site (Not Personnel)	Equipment and site decontamination solutions (not approved for humans).	Premixed concentrate May be stored as a dry powder or liquid ----- Some require dilution before application Some may require special applicators	
08D2-06-TDEW  Equipment, Technical Decontamination - Wet	Equipment used in the physical or chemical process of deliberate decontamination for responders and their equipment using liquids/solutions.	Pressure control for people/equipment Water/solutions Portable ----- Climate Material identification Runoff control/waste water management	

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.

## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D2 - Active Decontamination</b>			
07 - Technical Decontamination - Shower Equipment			
08D2-07-SHWR  Shower, Portable Decontamination	Framework designed to deliver water/decontamination solution at low pressure, low volume.	Stand alone Collapsible Rigged Quick setup ----- Size Weight Runoff control / waste water management Water supply (source required) Deployment time	
<b>D2 - Active Decontamination</b>			
08 - Technical Decontamination - Water Heater			
08D2-08-HTRW  Heaters, Water, Trans- portable	Used to heat water for decontamination applications in the field.	Temperature regulation and gauge May have ability to induct and mix decontamination solutions with water ----- Inlet water pressure requirements and limitations GPM output to meet application rate needed / fuel or power needed Rapid heating of water	
<b>D2 - Active Decontamination</b>			
09 - Technical Decontamination - Heater Equipment			
08D2-09-HTRB  Heater, Portable Air Blower	Provides climate control for victims during necessary decontamination operations during inclement conditions.	Provides heating and/or drying ----- Size Portability Power supply (electric or fuel) Temperature regulation Speed controls →	

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.



## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D2 - Active Decontamination</b>			
09 - Technical Decontamination - Heater Equipment - <i>Continued</i>			
		Collapsible ductwork	
<b>D2 - Active Decontamination</b>			
10 - Decontamination Containment Devices			
08D2-10-LDCD  Device, Liquid Decontamination Containment	Containment devices intended for use in the decontamination corridor for decontamination of equipment, people, and vehicles.	Portable Capture run off Non-porous May be disposable Low enough for personnel to step into and out of. ----- Various sizes Decontamination system dependent Material compatibility Larger inflatable or collapsible devices for vehicles will require ability to get vehicle into and out of device. Size may limit patient numbers before requiring pump-off capability.	
<b>D2 - Active Decontamination</b>			
11 - Waste Water Containment			
08D2-11-WWCD  Drum, Waste Water Containment	Drums or bladders, for waste water containment and decontamination shower waste collection. To be used in conjunction with them 8.2.11.	Various sizes Ability to hold large volumes of liquid hazardous waste product. Disposable or decontaminable ----- Size Weight Transportation Storage Empty or full may require vehicles. Pump capability	63, 122

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.

## Section 8 | Decontamination

Item Number/Title	Description	Features/Operating Considerations	Standards <sup>1</sup>
<b>D3 - Post-Decontamination</b>			
<b>01 - Disposable Blankets</b>			
08D3-01-BLKT  Blankets, Disposable	Disposable blankets	Low cost Compact storage Durable ----- One time use	
<b>D3 - Post-Decontamination</b>			
<b>02 - Disposable Modesty Clothing</b>			
08D3-02-CLOM  Clothing, Disposable Modesty	Disposable modesty clothing, with footwear; adult and child sizes.	Compact storage Durable Various sizes Instructions for use should be in multiple languages and/or pictures. ----- Modesty shelter No shelf life limitations Low cost	
<b>D3 - Post-Decontamination</b>			
<b>03 - Bags</b>			
08D3-03-BCNT  Bags, Cadaver, Non-transparent	Non-transparent cadaver bags See also 09MS-01-BAGB	Disposable Ability to be carried Virtually unlimited shelf-life ----- Universal precautions may be required. Low cost	

<sup>1</sup> Use numbers given to refer to Standards List at the end of this document.